BRUHAT BANGALORE MAHANAGARA PALIKE

Name of the Work : Improvements to Roads,drains,footpath and park in ward no.08,Bytarayanapura Division (Package includes 11 Works of Rs 1010 lakhs)

BYATARAYANAPURA DIVISION

8th PART BILL

TEST REPORTS

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
☎ 080 - 23287532
email: tejusconsultants@gmail.com

TEJUS
CONSULTANTS

No. TC / BBMP / BYT-PMC / 371 / 18-19

Date: 13/08/19

To
The Executive Engineer
Byatarayanapura Divison
Bruhat Bangalore Mahanagara Palike
Bangalore – 560 092

Dear Sir

Sub: Eighth RA bill for the work of Improvements to Roads, Drains, Footpath and Park in ward no.08,Bytarayanapura Division (Package includes 11 Works of Rs 1010 lakhs)

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **Eighth RA bill** submitted by Sri.Pramodh M/s Karthik Enterprises, No. 123, Aiswaraya, 3rd Cross, Ramannaa Garden, Vidyaranyapura, Bangalore - 97, towards the above said work and arrived at an amount of **Rs. 7149917** (**Rupees Seventy One Lakh Forty Nine Thousand Nine Hundred Seventeen Only**). The work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

TEJUS CONSULTANTS

For Tejus Consultants
(Nischal M)

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O : +91 80 23287532, tejusconsultants@gmail.com

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Sample ID	Cement
Date of Sample Tested	17-06-2019
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	35 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	375 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Consultants	Tejus Consultants, Bangalore
Contractor	M/s Karthik Enterprises

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	17-06-2019
		Date of Testing	17-06-2019

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	310	520	17.33	82.67	75 - 100
1.18 mm	410	930	31.00	69.00	55 - 90
0.600 mm	485	1415	47.17	52.83	35 -59
0.300 mm	750	2165	72.17	27.83	8-30
0.150 mm	620	2785	92.83	7.17	0 - 10
Pan	215	3000			-

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Authorised Signatory

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	PCC
Location/Source	At Site/Plant	Date of Sampling	17-06-2019
Period of Soaking	24 hours	Date of Testing	17-06-2019

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	662	637	671	
B	Weight of oven - dry sample gm.	652	628	661	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1675	1698	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.661	2.650	2.665	2.659
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.534	1.433	1.513	1.493

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Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

Authorised Signatory

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	17-06-2019
		Date of Testing	17-06-2019

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	80	80	2.67	97.33	95-100
20.00mm	1400	1480	49.33	50.67	30-70
10.00mm	970	2450	81.67	18.33	10-35
4.75mm	452	2902	96.73	3.27	0-5
Pan	98	3000	100.00	0.00	

emarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

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CONSULTANTS

Test Report on Cement

Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s Karthik Enterprises
Sample ID	Cement
Date of Sample Tested	20-06-2019
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	346 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s Karthik Enterprises

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	**Proposed Use**	concrete
Location/Source	At Site/Plant	**Date of Sampling**	20-06-2019
Period of Soaking	24 hours	**Date of Testing**	20-06-2019

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	648	679	658	
B	Weight of oven - dry sample gm.	641	672	648	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1682	1701	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.660	2.656	2.667	**2.661**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.092	1.042	1.543	**1.226**

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

Authorised Signatory

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CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Consultants	Tejus Consultants, Bangalore
Contractor	M/s Karthik Enterprises

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	20-06-2019
		Date of Testing	20-06-2019

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	306	516	17.20	82.80	75 - 100
1.18 mm	422	938	31.27	68.73	55 - 90
0.600 mm	486	1424	47.47	52.53	35 -59
0.300 mm	710	2134	71.13	28.87	8-30
0.150 mm	632	2766	92.20	7.80	0 - 10
Pan	234	3000			-

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

Authorised Signatory

CIVIL XPERTS
ISO 9001:2015
CONSULTANTS & TESTING CENTER

Highway / Building Material Testing | Structural Strengthening Solutions
Quality Control / Assurance / Audit | Proof Checking (Structural Designs & Drawings)
Soil Stabilization and Shoring Services | Non - Destructive Testing

NABL ACCREDITED AS PER ISO/IEC 17025:2005

Job No.: CECTC/PJB/MH/2019-20 Date: 20.06.2019

TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Client : **Bruhath Bangalore Mahanagara Palike.**

Agency : **Sri.Pramodh M/s Karthik Enterprises,**

Name of Work : Improvements to Roads,drains,footpath and park in ward no.08,Bytarayanapura Division (Package includes 11 Works of Rs 1010 lakhs)

Sample Identification : 8mm, 10mm Fe 500 TMT Bars

Technical Reference : IS 1786:2008, IS 1608:2005, IS 1599:1985 (Reaffirmed 2006)

Date of test: : 20.06.2019

Sl.No	Nominal size (dia in mm)	Mass per metre (kg/metre)	TENSILE STRENGTH		
			0.20 % proof stress/ yield stress ($N/mm^{2)}$	Tensile strength ($N/mm^{2)}$	Elongation, percent on gauge length
1	8	0.398	522	549	20
2	10	0.618	559	574	21

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For Civil Xperts
Authorised Signature

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

roject	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
lient	Bruhat Bangalore Mahanagar Palike
onsultant	TEJUS CONSULTANTS
ontractor	M/s Karthik Enterprises
ample ID	Cement
ate of ample ested	21-06-2019
mple pplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	35Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	340 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	3mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	26.00%	25 % to 35

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Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/s Karthik Enterprises	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	Plant/At site	**Date of Sampling**	20-06-2019
		Date of Testing	20-06-2019

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	262	262	2.62	97.38	95 - 100
10.00 mm	4832	5094	50.94	49.06	25 - 55
4.75 mm	4220	9314	93.14	6.86	0 - 10
Pan	686	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor:	M/s Karthik Enterprises

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	26-07-2019
		Date of Testing	26-07-2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	624	70	554	65
16.0	12.5	1210	110	1100	85
12.5	10.0	510	70	440	60
10.0	6.3	500	50	450	50
Total		**2844**	**300**	**2544**	**260**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.55
Elongation Index(%):	10.22
Combined FI+EL (%)	20.77

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Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Name of Work	:	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/s Karthik Enterprises
Date of Testing	:	26-07-2019
Type of Mix	:	BC
Sample I/D	:	BC3

Sample Location:	At plant	Date of Sampling:	26-07-2019
Type of material & Purpose:	BC	Date of testing:	26-07-2019
		Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	130	130.0	10.83	89.17	79 - 100
9.50	112	242.0	20.17	79.83	71 - 95
4.75	228	470.0	39.17	60.83	53 - 71
2.360	130	600.0	50.00	50.00	42 - 58
1.180	135	735.0	61.25	38.75	34 - 48
0.600	115	850.0	70.83	29.17	26 - 38
0.300	125	975.0	81.25	18.75	18 - 28
0.150	60	1035.0	86.25	13.75	12 - 20
0.075	100	1135.0	94.58	5.42	4 - 10
Pan	65.0				
Total	1200.0				

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

e of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
t :	BRUHAT BANGALORE MAHANAGARA PALIKE
ultant :	M/s Tejus Consultants
ractor :	M/s Karthik Enterprises
of Testing :	27-07-2019
of Mix :	BC
ple I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
eight of Mixture before extraction, g	845	852
eight of Mixture after extraction, g	800	807
eight of Bitumen	45	45
eight of filter paper before extraction, g	2.00	2.00
eight of filter paper after extraction, g	4.10	4.00
eight of fines, g	1.40	1.70
eight of Bitumen & fines	46.40	46.70
umen content in %	5.49	5.48
erage Bitumen content in %	**5.49**	
inimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

ple Location:	At site	Date of Sampling:	27-07-2019
of material & ose:	**BC**	Date of testing:	27-07-2019
		Oven Dry Wt.(gms):	800.0

Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	100	100.0	12.50	87.50	79 - 100
9.50	65	165.0	20.63	79.38	71 - 95
4.75	135	300.0	37.50	62.50	53 - 71
2.360	100	400.0	50.00	50.00	42 - 58
1.180	85	485.0	60.63	39.38	34 - 48
0.600	85	570.0	71.25	28.75	26 - 38
0.300	45	615.0	76.88	23.13	18 - 28
0.150	60	675.0	84.38	15.63	12 - 20
0.075	75	750.0	93.75	6.25	4 - 10
Pan	50.0				
Total	800.0				

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TEJUS CONSULTANTS

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No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079. O : +91 80 23287535, tejusconsultants@gmail.com

Assistant Executive Engineer,

DETERMINATION OF RATE OF SPREAD TACK COAT

TEJUS CONSULTANTS

Name of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	M/s Karthik Enterprises
Date of Testing :	27-07-2019
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.769	0.753	0.756
Final weight of plate after application of tack Coat (c)	Kg	0.792	0.776	0.779
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Authorised Signatory

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

ne of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
nt :	BRUHAT BANGALORE MAHANAGARA PALIKE
sultant :	M/s Tejus Consultants
tractor :	M/s Karthik Enterprises
e of Testing :	29-07-2019
e of Mix :	BC
ple I/D :	BC1

TEJUS CONSULTANTS

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
eight of Mixture before extraction, g	868	795
eight of Mixture after extraction, g	822	754
eight of Bitumen	46	41
eight of filter paper before extraction, g	2.00	2.00
eight of filter paper after extraction, g	4.10	4.00
eight of fines, g	1.40	1.70
eight of Bitumen & fines	47.40	42.70
tumen content in %	5.46	5.37
erage Bitumen content in %	5.42	
inimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

le Location:	At site	Date of Sampling:	29-07-2019
of material & ose:	BC	Date of testing:	29-07-2019
		Oven Dry Wt.(gms):	822.0

Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	98	98.0	11.92	88.08	79 - 100
9.50	102	200.0	24.33	75.67	71 - 95
4.75	111	311.0	37.83	62.17	53 - 71
2.360	120	431.0	52.43	47.57	42 - 58
1.180	82	513.0	62.41	37.59	34 - 48
0.600	60	573.0	69.71	30.29	26 - 38
0.300	78	651.0	79.20	20.80	18 - 28
0.150	51	702.0	85.40	14.60	12 - 20
0.075	60	762.0	92.70	7.30	4 - 10
Pan	60.0				
Total	822.0				

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he results indicated above are based on the tests carried out on the samples ived in the laboratory/Site.

y Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

DETERMINATION OF RATE OF SPREAD TACK COAT

TEJUS CONSULTANTS

Name of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	M/s Karthik Enterprises
Date of Testing :	29-07-2019
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.778	0.785	0.762
Final weight of plate after application of tack Coat (c)	Kg	0.801	0.808	0.785
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

Note:

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Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

Authorised Signatory

DETERMINATION OF RATE OF SPREAD TACK COAT

TEJUS CONSULTANTS

Name of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	M/s Karthik Enterprises
Date of Testing :	30-07-2019
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.768	0.765	0.750
Final weight of plate after application of tack Coat (c)	Kg	0.791	0.788	0.773
Weight of tack Coat (c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Bangalore.

TEJUS CONSULTANTS

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

me of Work :	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
ent :	BRUHAT BANGALORE MAHANAGARA PALIKE
nsultant :	M/s Tejus Consultants
ntractor :	M/s Karthik Enterprises
e of Testing :	30-07-2019
e of Mix :	BC
mple I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
Weight of Mixture before extraction, g	870	832
Weight of Mixture after extraction, g	825	788
Weight of Bitumen	45	44
Weight of filter paper before extraction, g	2.00	2.00
Weight of filter paper after extraction, g	4.10	4.00
Weight of fines, g	1.40	1.70
Weight of Bitumen & fines	46.40	45.70
Bitumen content in %	5.33	5.49
Average Bitumen content in %	5.41	
Minimum Bitumen content in %	5.40	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

mple Location:	At site	Date of Sampling:	30-07-2019
e of material & pose:	BC	Date of testing:	30-07-2019
		Oven Dry Wt.(gms):	825.0

Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	90	90.0	10.91	89.09	79 - 100
9.50	115	205.0	24.85	75.15	71 - 95
4.75	119	324.0	39.27	60.73	53 - 71
2.360	124	448.0	54.30	45.70	42 - 58
1.180	80	528.0	64.00	36.00	34 - 48
0.600	65	593.0	71.88	28.12	26 - 38
0.300	70	663.0	80.36	19.64	18 - 28
0.150	51	714.0	86.55	13.45	12 - 20
0.075	40	754.0	91.39	8.61	4 - 10
Pan	71.0				
Total	825.0				

Note:

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Assistant Executive Engineer,
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Bangalore.

TEJUS
CONSULTANTS

Test report on Compressive strength of concrete cubes

roject	Improvements To Road, Drain And Footpath In Main Road And Abutting Cross Roads Of Maruthinagara 2nd Stage In Ward No.8, Kodigehalli
lient	Bruhat Bangalore Mahanagar Palike
onsultant	M/s TEJUS CONSULTANTS
ontractor	M/s Kerthik Enterprises
rade of oncrete:	M20
ze of cube:	150x150x150 mm
eference IS ode:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	08-07-2019	05-08-2019	28 days	8.286	22500	418	18.58	18.67
2	08-07-2019	05-08-2019	28 days	8.384	22500	420	18.67	
3	08-07-2019	05-08-2019	28 days	8.245	22500	422	18.76	

Assistant Executive Engineer
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